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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,029	04/14/2004	Richard P. Merry	59626US002	6037
32692 7590 02/17/2009 3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427				
EXAMINER NGUYEN, HUY TRAM				
ART UNIT 1797		PAPER NUMBER		
NOTIFICATION DATE 02/17/2009		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LegalUSDocketing@mmm.com
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Office Action Summary

Application No.

10/824,029

Applicant(s)

MERRY, RICHARD P.

Examiner

HUY-TRAM NGUYEN

Art Unit

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30, 32-36, 38-42, 44-50, 52, 53 and 55-60 is/are pending in the application.
- 4a) Of the above claim(s) 50, 52, 53 and 55-58 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30, 32-36, 39-42, 44-49 and 59 is/are rejected.
- 7) ☒ Claim(s) 38 and 60 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-846)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114 was filed in this application after appeal to the Board of Patent Appeals and Interferences, but prior to a decision on the appeal. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on January 15, 2009 has been entered.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 30, 32-34, 37-42, 44-46, 49, and 59 are rejected under 35 U.S.C. 102(e) as being anticipated by **Maus (US Patent No. 7,179,429)**.

Regarding Claim 30, the Maus reference discloses a multilayer mat comprising:

an intumescent layer having opposite outer edges (**Figure 2, numeral 9 - border**), opposite ends (**Figure 2, numeral 5 – front & back**), a first major surface and a second major surface opposite the first major surface, said intumescent layer having an area A1(**Figure 2, numeral 5 – swelling mat**);

a first non-intumescent layer racing the first major surface of said intumescent layer, said first non-intumescent layer comprising inorganic fibers and said first non-intumescent layer having opposite outer edges (**Figure 2, numeral 7 – border**), opposite ends (**Figure 2, numeral 6 – front & back**), and an area A2 that is greater than area A1 (**Figure 2, numeral 6 – insulating mat**); wherein said first non-intumescent layer has a major surface facing said intumescent layer with a first trough in said major surface (**Figure 2, numeral 8 – inner region**), and wherein said intumescent layer is positioned in said first trough (**Figure 2, numeral 5**); and

a second non-intumescent layer facing the second major surface of said intumescent layer, said second non-intumescent layer comprising inorganic fibers and said second non-intumescent layer having opposite outer edges, opposite ends, and an area A3 that is greater than area A1 (**Column 5, Line 13-22 – a number of compensating layers (4) and/or additional plies of the thermally insulating layer (6) which follow one another radially**),

wherein said intumescent layer is sandwiched between said first and second non-intumescent layers and positioned entirely within the area A2 of said first non-intumescent layer and the area A3 of said second non-intumescent layer, with at least

one of the outer edges of said mat being free of intumescent material (**Figure 2, numeral 7**).

Regarding Claims 32, 33 and 34, the compensating mat of Maus would inherently have the claimed lengths and contact areas since the same insulating mat 6 is used.

Regarding Claim 39, Maus reference discloses the multilayer mat of claim 33, wherein said intumescent layer has a width W1 that is less than W2, said intumescent layer has a length L1 that is substantially equal to L2, and said second non-intumescent layer contacts said first non-intumescent layer along at least one edge of said multilayer mat (**Figures 3, 5 and 6 – the multilayer mat wrapped around the honeycomb element on the length**).

Regarding Claim 40, Maus reference discloses the multilayer mat of claim 30, wherein said multilayer mat is free of intumescent material along at least one lateral outer edge of said multilayer mat (**Figures 1 and 2**).

Regarding Claim 41, Maus reference discloses a pollution control device comprising:

an outer housing having an interior major surface (**Figure 1, numeral 3 – casing**);

a pollution control element (**Figure 1, numeral 2**); and

a multilayer mounting mat positioned between said pollution control element and said outer housing (**Figures 1 & 2, numeral 4 – compensating mat**), wherein the multilayer mat comprises:

an intumescent layer having opposite outer edges (**Figure 2, numeral 9 - border**), opposite ends (**Figure 2, numeral 5 – front & back**), a first major surface and a second major surface opposite the first major surface, said intumescent layer having an area A1(**Figure 2, numeral 5 – swelling mat**);

a first non-intumescent layer racing the first major surface of said intumescent layer, said first non-intumescent layer comprising inorganic fibers and said first non-intumescent layer having opposite outer edges(**Figure 2, numeral 7 – border**), opposite ends (**Figure 2, numeral 6 – front & back**), and an area A2 that is greater than area A1(**Figure 2, numeral 6 – insulating mat**); and

a second non-intumescent layer facing the second major surface of said intumescent layer, said second non-intumescent layer comprising inorganic fibers and said second non-intumescent layer having opposite outer edges, opposite ends, and an area A3 that is greater than area A1 (**Column 5, Line 15-22 – additional plies of the thermally insulating layer (6) which follow one another radially**),

wherein said intumescent layer is sandwiched between said first and second non-intumescent layers and positioned entirely within the area A2 of said first non-intumescent layer and the area A3 of said second non-intumescent layer, with at least one of the outer edges of said mat being free of intumescent material (**Figure 2, numeral 7**), and

wherein one of the first or second non-intumescent layers has a major surface in contact with the internal major surface of the housing (**Column 5, Lines 14-17 – i.e. the**

mat lay-out can be 6/8/5/6 with the intumescent layer (5) positioned inside the trough (8)).

Regarding Claim 42, Maus reference discloses the pollution control device of claim 41, wherein said multilayer mat is free of intumescent material along at least one lateral outer edge of said multilayer mat **(Figures 1 and 2).**

Regarding Claims 44 and 45, the compensating mat of Maus would inherently have the claimed surface areas and lengths since the same insulating mat 6 is used.

Regarding Claim 46, Maus reference discloses the pollution control device of claim 41, wherein said first non-intumescent layer contacts said second non-intumescent layer along at least one edge of said mat, said at least one edge being positioned at a gas inlet side of said pollution control device **(Figure 1, numeral 7).**

Regarding Claim 49, Maus reference discloses the pollution control device of claim 45, wherein said intumescent layer has a length W1 that is less than W2, said intumescent layer has a length L1 that is substantially equal to L2, and said second non-intumescent layer contacts said first non-intumescent layer along at least one edge of said multilayer mat **(Figures 3, 5 and 6 – the multilayer mat wrapped around the honeycomb element on the length).**

Regarding Claim 59, Maus reference discloses the pollution control device of claim 41, wherein said first non-intumescent layer has a major surface facing said intumescent layer with a first trough in said major surface **(Figure 2, numeral 8 – inner region)**, and wherein said intumescent layer is positioned in said first trough **(Figure 2, numeral 5).**

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 35 and 47-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Maus (US Patent No. 7,179,429 B1) in view of Wirth et al. (WO 99/39086 – using US Patent No. 6,967,006 B1 as the US equivalent document).**

Regarding Claims 35 and 47, Maus reference discloses the claimed invention of Claims 31 and 43 except for the intumescent layer is divided into at least two segments that are separated from each other. Wirth et al. reference teaches that it is known to use a layer of an individual mat consisting alternating of swelling mat section for expansion at high temperature and erosion-resistant fiber (**Wirth et al. - Figures 13 and 15 and Column 9, Line 14-17**). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the design of Wirth et al., since it has

been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

In re Leshin, 125 USPQ 416.

Regarding Claim 48, Maus and Wirth et al. references disclose the pollution control device of claim 47, wherein said pollution control element has an elliptical cross-section and the segments of said intumescent layer are positioned over portions of said pollution control element with a smaller radius of curvature (**Wirth et al. – Figure 16, numeral 5 – swelling mat**).

Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Maus (US Patent No. 7,179,429 B1) in view of Dinwoodie (US 2002/0025750 A1)**.

Regarding Claim 36, Maus reference discloses the claimed invention except for the intumescent layer has a thickness that is 5 to 25 percent of a total mat thickness. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the multilayer mat with the claimed thickness, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art (**Dinwoodie – Page 4, Para. [0040] – 10 to 50% of the total thickness of the composite mat**). *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Allowable Subject Matter

5. Claims 38 and 60 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

Regarding Claim 38, Maus reference discloses the multilayer mat of claim 30, wherein said second non- intumescent layer has a second trough aligned with the first trough. However, the second trough of said second non intumescent layer does not face said intumescent layer because Maus teaches that a number of compensating layers 4 and/or additional **plies** of the thermally insulating layer 6 follow one another **radially (Column 5, Lines 14-17 – i.e. the mat lay-out can be either 6/8/5/6/8/5 or 6/8/5/6 with the intumescent layer (5) positioned inside inner region (8))**; thus, said intumescent layer is not positioned in the first and second trough.

Regarding Claim 60, Maus reference discloses the pollution control device of claim 59, wherein said second non-intumescent layer has a second trough aligned with the first trough. However, the second trough of said second non intumescent layer does not face said intumescent layer because Maus teaches that a number of compensating layers 4 and/or additional **plies** of the thermally insulating layer 6 follow one another **radially (Column 5, Lines 14-17 – i.e. the mat lay-out can be either 6/8/5/6/8/5 or 6/8/5/6 with the intumescent layer (5) positioned inside inner region (8))**; thus, said intumescent does not positioned in the first and second trough.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUY-TRAM NGUYEN whose telephone number is

(571)270-3167. The examiner can normally be reached on MON- THURS: 6:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HTN
2/10/09

/Walter D. Griffin/
Supervisory Patent Examiner, Art Unit 1797